

3.17.11 Manhole Exfiltration Test

The manhole vacuum test shall be used for testing manholes for leakage defects. The manhole water exfiltration test shall only be allowed where specified.

To perform this test, the inlet and outlet of the manhole shall be plugged and the manhole filled with water to within 6 inches of the top of the manhole. ~~a depth equal to that used for the sanitary line water test, or in the case when the air test was run on the line, a minimum depth of 2 feet above the top of the sewer line or 2 feet above the existing ground water—whichever is the higher.~~ Allow the water to stabilize for one-half hour and refill the manhole to the original elevation. Mark the initial depth of the water, and after one hour record the drop in the water level in the manhole. The maximum allowable drop in vertical water height in the manhole shall be 1/4 inch for all diameter sizes of manholes. If the water level in the manhole drops below the allowable drop amount, the Contractor shall repair the leak and retest.

3.17.12 Manhole Vacuum Test

The manhole vacuum test shall be performed in accordance with ASTM C1244. The following procedure is summarized from ASTM C1244 and shall be followed in conjunction with ASTM C1244 unless modified by the Engineer. The vacuum test shall include testing the top of the manhole, excluding the adjusting rings and manhole frame and cover. Testing will be allowed after backfilling has occurred or as specified in the Special Provisions. Manhole vacuum tester assembly and vacuum pumps shall be as manufactured by Cherne Industries, Inc. or approved equal. Repair of leaks may require the removal and replacement of manhole sections. The use of grout to repair leaks will not be allowed.

Procedure

1. All lift holes shall be plugged.
2. All pipes entering the manhole shall be temporarily plugged, taking care to securely brace the pipes and plugs to prevent them from being drawn into the manhole.
3. The test head shall be placed at the top of the manhole in accordance with the manufacturer's recommendations.
4. A vacuum of 10 inches of mercury shall be drawn on the manhole, the valve on the vacuum line of the test head closed, and the vacuum pump shut off. The time shall be measured for the vacuum to drop to 9 inches of mercury.